



## Microcystins ELISA Summary Report

Office of Water Quality - Watershed Assessment and Planning Branch

| <b>Sample #</b> | <b>Location</b>                    | <b>Date Collected</b> | <b>Date Analyzed</b> | <b>Conc. (ppb)</b> |
|-----------------|------------------------------------|-----------------------|----------------------|--------------------|
| AB42919         | Kunkel Beach @ Ouabache State Park | 6/22/2020             | 7/1/2020             | < 0.30             |
| AB42917         | Kunkel Beach (Field Duplicate)     | 6/22/2020             | 7/1/2020             | < 0.30             |
| AB42918         | Field Blank                        | 6/22/2020             | 7/1/2020             | < 0.30             |
| AB42994         | Cagles Mill Lake Beach             | 6/29/2020             | 7/1/2020             | < 0.30             |
| AB42995         | Quakertown SRA                     | 6/29/2020             | 7/1/2020             | < 0.30             |
| AB42996         | Raccoon Lake SRA                   | 6/29/2020             | 7/1/2020             | < 0.30             |
| AB42997         | Mounds SRA                         | 6/29/2020             | 7/1/2020             | < 0.30             |
| AB42998         | Whitewater Memorial SP             | 6/29/2020             | 7/1/2020             | < 0.30             |
| AB42999         | Mounds SRA (Field Duplicate)       | 6/29/2020             | 7/1/2020             | < 0.30             |
| AB42300         | Field Blank                        | 6/29/2020             | 7/1/2020             | < 0.30             |

**Test Information**

Request: 7/1/2020 12:17:46 PM

Date: 7/1/2020

| Name/ID        | Assay                 | Absorbance                  | Concentration               | Interpretation                  | Reference | Lot #   |
|----------------|-----------------------|-----------------------------|-----------------------------|---------------------------------|-----------|---------|
| MCT Std 0      | MICROCYSTINS ADDA 546 | 1.049 Abs                   | 0.008 µg/L                  | R <sup>2</sup> =0.99736, 99.715 |           | 19G0246 |
| MCT Std 0      | MICROCYSTINS ADDA 546 | 1.054 Abs [1.0515] {0.3 CV} | 0.003 µg/L [0.006] {0.3 CV} | R <sup>2</sup> =0.99736, 100.19 |           | 19G0246 |
| MCT Std 1      | MICROCYSTINS ADDA 546 | 0.941 Abs                   | 0.122 µg/L                  | R <sup>2</sup> =0.99736, 89.449 |           | 19G0246 |
| MCT Std 1      | MICROCYSTINS ADDA 546 | 0.928 Abs [0.9345] {1.0 CV} | 0.138 µg/L [0.130] {0.8 CV} | R <sup>2</sup> =0.99736, 88.213 |           | 19G0246 |
| MCT Std 2      | MICROCYSTINS ADDA 546 | 0.762 Abs                   | 0.393 µg/L                  | R <sup>2</sup> =0.99736, 72.433 |           | 19G0246 |
| MCT Std 2      | MICROCYSTINS ADDA 546 | 0.728 Abs [0.7450] {3.2 CV} | 0.463 µg/L [0.428] {3.2 CV} | R <sup>2</sup> =0.99736, 69.202 |           | 19G0246 |
| MCT Std 3      | MICROCYSTINS ADDA 546 | 0.552 Abs                   | 1.031 µg/L                  | R <sup>2</sup> =0.99736, 52.471 |           | 19G0246 |
| MCT Std 3      | MICROCYSTINS ADDA 546 | 0.546 Abs [0.5490] {0.8 CV} | 1.060 µg/L [1.046] {0.8 CV} | R <sup>2</sup> =0.99736, 51.901 |           | 19G0246 |
| MCT Std 4      | MICROCYSTINS ADDA 546 | 0.456 Abs                   | 1.648 µg/L                  | R <sup>2</sup> =0.99736, 43.346 |           | 19G0246 |
| MCT Std 4      | MICROCYSTINS ADDA 546 | 0.430 Abs [0.4430] {4.2 CV} | 1.898 µg/L [1.773] {4.2 CV} | R <sup>2</sup> =0.99736, 40.875 |           | 19G0246 |
| MCT Std 5      | MICROCYSTINS ADDA 546 | 0.289 Abs                   | > 5.000 µg/L                | 27.471 %Abs                     |           | 19G0246 |
| MCT Std 5      | MICROCYSTINS ADDA 546 | 0.286 Abs [0.2875] {0.7 CV} | > 5.000 µg/L                | 27.186 %Abs                     |           | 19G0246 |
| MCT 546 LRB 1  | MICROCYSTINS ADDA 546 | 1.032 Abs                   | 0.025 µg/L                  | 98.099 %Abs                     |           | 19G0246 |
| MCT 546 LRB 1  | MICROCYSTINS ADDA 546 | 1.019 Abs [1.0255] {0.9 CV} | 0.038 µg/L [0.032] {0.9 CV} | 96.863 %Abs [97.48]             |           | 19G0246 |
| MCT 546 Low-CV | MICROCYSTINS ADDA 546 | 0.855 Abs                   | 0.235 µg/L                  | 81.274 %Abs                     |           | 19G0246 |
| MCT 546 Low-CV | MICROCYSTINS ADDA 546 | 0.847 Abs [0.8510] {0.7 CV} | 0.247 µg/L [0.241] {0.7 CV} | 80.513 %Abs [80.89]             |           | 19G0246 |
| MCT 546 LFB 1  | MICROCYSTINS ADDA 546 | 0.749 Abs                   | 0.419 µg/L                  | 71.198 %Abs                     |           | 19G0246 |
| MCT 546 LFB 1  | MICROCYSTINS ADDA 546 | 0.748 Abs [0.7485] {0.1 CV} | 0.421 µg/L [0.420] {0.1 CV} | 71.103 %Abs [71.15]             |           | 19G0246 |

**Note**

 Signature David Jordan

Date: 7/01/2020

# Test Report (by Request)

**Test Information**

 Request: 7/1/2020 12:18:36 PM  
 Date: 7/1/2020

| Name/ID    | Assay                 | Absorbance                  | Concentration          | Interpretation           | Reference     | Lot #   |
|------------|-----------------------|-----------------------------|------------------------|--------------------------|---------------|---------|
| AB42917    | MICROCYSTINS ADDA 546 | 0.989 Abs                   | 0.069 µg/L             | <b>LOW, 94.011 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42917    | MICROCYSTINS ADDA 546 | 0.970 Abs [0.9795] {1.4 CV} | 0.089 µg/L [0.079] {1} | <b>LOW, 92.205 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42919    | MICROCYSTINS ADDA 546 | 1.023 Abs                   | 0.034 µg/L             | <b>LOW, 97.243 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42919    | MICROCYSTINS ADDA 546 | 1.006 Abs [1.0145] {1.2 CV} | 0.051 µg/L [0.043] {2} | <b>LOW, 95.627 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42918    | MICROCYSTINS ADDA 546 | 1.001 Abs                   | 0.056 µg/L             | <b>LOW, 95.152 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42918    | MICROCYSTINS ADDA 546 | 0.987 Abs [0.9940] {1.0 CV} | 0.071 µg/L [0.064] {1} | <b>LOW, 93.821 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42994    | MICROCYSTINS ADDA 546 | 0.985 Abs                   | 0.073 µg/L             | <b>LOW, 93.631 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42994    | MICROCYSTINS ADDA 546 | 0.992 Abs [0.9885] {0.5 CV} | 0.066 µg/L [0.069] {7} | <b>LOW, 94.297 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42995    | MICROCYSTINS ADDA 546 | 0.966 Abs                   | 0.094 µg/L             | <b>LOW, 91.825 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42995    | MICROCYSTINS ADDA 546 | 0.955 Abs [0.9605] {0.8 CV} | 0.106 µg/L [0.100] {8} | <b>LOW, 90.779 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42995MS  | MICROCYSTINS ADDA 546 | 0.667 Abs                   | 0.614 µg/L             | 63.403 %Abs              | 0.300 - 5.000 | 19G0246 |
| AB42995MS  | MICROCYSTINS ADDA 546 | 0.654 Abs [0.6605] {1.4 CV} | 0.651 µg/L [0.633] {4} | 62.167 %Abs [62.785]     | 0.300 - 5.000 | 19G0246 |
| AB42995MSD | MICROCYSTINS ADDA 546 | 0.673 Abs                   | 0.598 µg/L             | 63.973 %Abs              | 0.300 - 5.000 | 19G0246 |
| AB42995MSD | MICROCYSTINS ADDA 546 | 0.601 Abs [0.6370] {8.0 CV} | 0.826 µg/L [0.712] {2} | 57.129 %Abs [60.55]      | 0.300 - 5.000 | 19G0246 |
| AB42996    | MICROCYSTINS ADDA 546 | 0.828 Abs                   | 0.277 µg/L             | <b>LOW, 78.707 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42996    | MICROCYSTINS ADDA 546 | 0.821 Abs [0.8245] {0.6 CV} | 0.288 µg/L [0.282] {2} | <b>LOW, 78.042 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42997    | MICROCYSTINS ADDA 546 | 0.958 Abs                   | 0.103 µg/L             | <b>LOW, 91.065 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42997    | MICROCYSTINS ADDA 546 | 0.941 Abs [0.9495] {1.3 CV} | 0.122 µg/L [0.112] {1} | <b>LOW, 89.449 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42998    | MICROCYSTINS ADDA 546 | 0.948 Abs                   | 0.114 µg/L             | <b>LOW, 90.114 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42998    | MICROCYSTINS ADDA 546 | 0.914 Abs [0.9310] {2.6 CV} | 0.155 µg/L [0.134] {2} | <b>LOW, 86.882 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42999    | MICROCYSTINS ADDA 546 | 0.963 Abs                   | 0.097 µg/L             | <b>LOW, 91.540 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB42999    | MICROCYSTINS ADDA 546 | 0.954 Abs [0.9585] {0.7 CV} | 0.107 µg/L [0.102] {6} | <b>LOW, 90.684 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| AB43000    | MICROCYSTINS ADDA 546 | 1.072 Abs                   | 0.000 µg/L             | <b>LOW, 101.901 %ABS</b> | 0.300 - 5.000 | 19G0246 |
| AB43000    | MICROCYSTINS ADDA 546 | 1.076 Abs [1.0740] {0.3 CV} | 0.000 µg/L [0.000]     | <b>LOW, 102.281 %ABS</b> | 0.300 - 5.000 | 19G0246 |
| LFB 2      | MICROCYSTINS ADDA 546 | 0.732 Abs                   | 0.455 µg/L             | 69.582 %Abs              | 0.300 - 5.000 | 19G0246 |
| LFB 2      | MICROCYSTINS ADDA 546 | 0.690 Abs [0.7110] {4.2 CV} | 0.553 µg/L [0.504] {1} | 65.589 %Abs [67.586]     | 0.300 - 5.000 | 19G0246 |
| LRB 2      | MICROCYSTINS ADDA 546 | 1.034 Abs                   | 0.023 µg/L             | <b>LOW, 98.289 %ABS</b>  | 0.300 - 5.000 | 19G0246 |
| LRB 2      | MICROCYSTINS ADDA 546 | 1.031 Abs [1.0325] {0.2 CV} | 0.026 µg/L [0.025] {8} | <b>LOW, 98.004 %ABS</b>  | 0.300 - 5.000 | 19G0246 |

**Note**

 Signature David Jordan

Date: 7/01/2020

**Assay Information**

Assay Name: MICROCYSTINS ADDA 546  
 Version: 2  
 Temperature: Room Temperature  
 Last Modified By: Security disabled  
 Units: µg/L  
 Assay Description:  
 Assay Substances:

Assay Mode: 4-Parameter Logistic Weight by:None  
 Well Type: Flat bottom  
 Last Modified On: 8/13/2019 2:01:59 PM  
 Normal: 0.300 - 5.000  
 # of decimals: 3  
 Kit Lot Number: 19G0246

Controls:  
 MCT 546 LRB 1  
 MCT 546 Low-CV  
 MCT 546 LFB 1  
 Standards:  
 MCT Std 0, Concentration = 0.000, Minimum number to use: 2  
 MCT Std 1, Concentration = 0.150, Minimum number to use: 2  
 MCT Std 2, Concentration = 0.400, Minimum number to use: 2  
 MCT Std 3, Concentration = 1.000, Minimum number to use: 2  
 MCT Std 4, Concentration = 2.000, Minimum number to use: 2  
 MCT Std 5, Concentration = 5.000, Minimum number to use: 2  
 Curve valid interval: 1 days 0 hours  
 Axis Mode: Y = Abs, X = Log(Conc)

**Assay Calibration**

Current Calibration Status: "

"

| Name                        | Absorbance                  | Concentration | Interpretation                        | Position      |
|-----------------------------|-----------------------------|---------------|---------------------------------------|---------------|
| <b>7/1/2020 12:17:46 PM</b> |                             |               |                                       |               |
| MCT Std 0                   | 1.049 Abs                   |               | R <sup>2</sup> =0.99736, 99.715 %Abs  | RK1:23->A01@2 |
| MCT Std 0                   | 1.054 Abs [1.0515] {0.3 CV} |               | R <sup>2</sup> =0.99736, 100.190 %Abs | RK1:23->B01@2 |
| MCT Std 1                   | 0.941 Abs                   |               | R <sup>2</sup> =0.99736, 89.449 %Abs  | RK1:24->C01@2 |
| MCT Std 1                   | 0.928 Abs [0.9345] {1.0 CV} |               | R <sup>2</sup> =0.99736, 88.213 %Abs  | RK1:24->D01@2 |
| MCT Std 2                   | 0.762 Abs                   |               | R <sup>2</sup> =0.99736, 72.433 %Abs  | RK1:25->E01@2 |
| MCT Std 2                   | 0.728 Abs [0.7450] {3.2 CV} |               | R <sup>2</sup> =0.99736, 69.202 %Abs  | RK1:25->F01@3 |
| MCT Std 3                   | 0.552 Abs                   |               | R <sup>2</sup> =0.99736, 52.471 %Abs  | RK1:26->G01@3 |
| MCT Std 3                   | 0.546 Abs [0.5490] {0.8 CV} |               | R <sup>2</sup> =0.99736, 51.901 %Abs  | RK1:26->H01@3 |
| MCT Std 4                   | 0.456 Abs                   |               | R <sup>2</sup> =0.99736, 43.346 %Abs  | RK1:27->A02@2 |
| MCT Std 4                   | 0.430 Abs [0.4430] {4.2 CV} |               | R <sup>2</sup> =0.99736, 40.875 %Abs  | RK1:27->B02@2 |
| MCT Std 5                   | 0.289 Abs                   |               | 27.471 %Abs                           | RK1:28->C02@2 |
| MCT Std 5                   | 0.286 Abs [0.2875] {0.7 CV} |               | 27.186 %Abs                           | RK1:28->D02@2 |
| *****                       |                             |               |                                       |               |
| <b>7/1/2020 12:17:46 PM</b> |                             |               |                                       |               |
| MCT 546 LRB 1               | 1.032 Abs                   |               | 98.099 %Abs                           | RK1:29->E02@2 |
| MCT 546 LRB 1               | 1.019 Abs [1.0255] {0.9 CV} |               | 96.863 %Abs [97.481 %Abs]             | RK1:29->F02@3 |
| MCT 546 Low-CV              | 0.855 Abs                   |               | 81.274 %Abs                           | RK1:30->G02@3 |
| MCT 546 Low-CV              | 0.847 Abs [0.8510] {0.7 CV} |               | 80.513 %Abs [80.894 %Abs]             | RK1:30->H02@3 |
| MCT 546 LFB 1               | 0.749 Abs                   |               | 71.198 %Abs                           | RK1:31->A03@2 |
| MCT 546 LFB 1               | 0.748 Abs [0.7485] {0.1 CV} |               | 71.103 %Abs [71.150 %Abs]             | RK1:31->B03@2 |
| *****                       |                             |               |                                       |               |
| <b>Statistic</b>            |                             |               |                                       |               |
| MCT Std 0 [MEAN]            | 1.0515                      |               |                                       |               |
| MCT Std 0 [SD]              | 0.0035                      |               |                                       |               |
| MCT Std 0 [%CV]             | 0.3362                      |               |                                       |               |
| MCT Std 1 [MEAN]            | 0.9345                      |               |                                       |               |
| MCT Std 1 [SD]              | 0.0092                      |               |                                       |               |
| MCT Std 1 [%CV]             | 0.9837                      |               |                                       |               |
| MCT Std 1 [%DIFF]           |                             |               |                                       |               |
| MCT Std 2 [MEAN]            | 0.7450                      |               |                                       |               |
| MCT Std 2 [SD]              | 0.0240                      |               |                                       |               |
| MCT Std 2 [%CV]             | 3.2271                      |               |                                       |               |
| MCT Std 2 [%DIFF]           |                             |               |                                       |               |
| MCT Std 3 [MEAN]            | 0.5490                      |               |                                       |               |
| MCT Std 3 [SD]              | 0.0042                      |               |                                       |               |
| MCT Std 3 [%CV]             | 0.7728                      |               |                                       |               |
| MCT Std 3 [%DIFF]           |                             |               |                                       |               |
| MCT Std 4 [MEAN]            | 0.4430                      |               |                                       |               |

| Name                  | Absorbance | Concentration | Interpretation | Position |
|-----------------------|------------|---------------|----------------|----------|
| MCT Std 4 [SD]        | 0.0184     |               |                |          |
| MCT Std 4 [%CV]       | 4.1501     |               |                |          |
| MCT Std 4 [%DIFF]     |            |               |                |          |
| MCT Std 5 [MEAN]      | 0.2875     |               |                |          |
| MCT Std 5 [SD]        | 0.0021     |               |                |          |
| MCT Std 5 [%CV]       | 0.7378     |               |                |          |
| MCT 546 LRB 1 [MEAN]  | 1.0255     |               |                |          |
| MCT 546 LRB 1 [SD]    | 0.0092     |               |                |          |
| MCT 546 LRB 1 [%CV]   | 0.8964     |               |                |          |
| MCT 546 Low-CV [MEAN] | 0.8510     |               |                |          |
| MCT 546 Low-CV [SD]   | 0.0057     |               |                |          |
| MCT 546 Low-CV [%CV]  | 0.6647     |               |                |          |
| MCT 546 LFB 1 [MEAN]  | 0.7485     |               |                |          |
| MCT 546 LFB 1 [SD]    | 0.0007     |               |                |          |
| MCT 546 LFB 1 [%CV]   | 0.0945     |               |                |          |

**Assay Curve**

$y = (A-D)/(1+(x/C)^B) + D$   
 Weight: NONE  
 A = 1.0571  
 B = 1.0331  
 C = 0.74321  
 D = 0.19193  
 R2 coef = 0.99736  
 50% = 1.164

